

Project Guidelines

You must follow these guidelines for all the projects that you work on in the data structures course.

1. Submissions

You need to submit the following three items:

- **Source code:** Compress your project folder. The folder must consist of all your source code files. I will use this folder to run your application. Submit the source code on blackboard.
- **Project Report:** This report contains assumptions, a UML diagram, Big-O of the significant functions, and references.
- **Individual Report:** A short report (preferably one page only) for each team member. Each team member should mention his/her contributions, and what was learned in the project, other comments. Further, each person should briefly mention the other team member's contributions. **You might lose 25% of the grade if you don't submit this report.**

Here's the template for the individual report if you are working in a group:

https://www.dropbox.com/s/duki6ga6x2cnw6v/personal_report.docx?dl=0

If you are working solo, here's the template for the individual report:

https://www.dropbox.com/s/5sstebqneubw6aa/personal_report_solo.docx?dl=0

2. Submission Guidelines

- Submit everything on Blackboard (no need for hard copies).
- **Teams:** Each team member should submit his/her individual report separately on Blackboard. The team leader should submit the source code and the project report on Blackboard (one submission per team). **Please don't e-mail me the submissions. Make the submissions on Blackboard.**
- **Solo:** Submit all the required submissions on Blackboard.

3. Source Code

- You can use C++, Java, or C# to implement your project.
- You need to submit all the files that are needed to run the project. In C++, for instance, you will need to submit header files (.h) and cpp files.
- Comment your code, and choose meaningful variable and function names.
- Follow a coding style consistently.
- Don't include the source code in your printed report. I will just look at it electronically.

4. Report

This report should be roughly between 3-4 pages (excluding the front-page).

Here is what your report should contain:

- **Assumptions:** This section is optional. List any assumptions that you made that aren't mentioned of the project description.
- **A UML class diagram:** The diagram will show the classes you used, and the relationships between them.

- **Efficiency of Algorithms:** Mention the Big-O of the required functions (just the significant functions, not minor things like setters and getters). Mention if it is possible to do better.
- **References:** Cite any references that you used.

5. Examples for Inspiration

- The phone directory project: You can find it on Blackboard in *Course Content->Source Code->Vectors*.
- The airline system: You can find it in the textbook, page 381. However, a sequence diagram (page 383) is **not** required.

6. Teamwork

- Each team should appoint a leader. It is your responsibility as a team to delegate responsibilities to team members. Make sure the responsibilities are relatively equal. Each team member must have a role in coding.
- **At any point in time, if there is an issue with your team, contact me as early as possible.** I can't help you when you inform me about problems too late (a day or two before the deadline).
- The idea behind teamwork is that you exchange thoughts with each other. Hence, teach other about your contributions.
- Each team member's performance will be evaluated based on the contributions that are mentioned in the individual report.
- **A team member who doesn't contribute or contributes poorly will most likely get a very poor grade.**

7. Git/GitHub

- It is optional to use Git/GitHub for source code version control. You are encouraged to use it since it is used a lot in industry nowadays. However, to gain a full point, you need to use Git/GitHub from the very beginning of the project.

Here are some good resources:

<https://www.youtube.com/watch?v=0fKg7e37bQE> (short tutorial)

https://www.youtube.com/watch?v=Ytux4IOAR_s&list=PLAwxTw4SYaPk8-6IGxJtD3i2QAu5_s_p (long and very detailed)

You can also read chapters two and three of this book:

<http://git-scm.com/book/en/v2>

You are always welcome to contact the TA, Tarun Shedhani (email: tsmmf@mail.umkc.edu) if you need help with Git/GitHub.

- You will gain *one extra point within the scope of the project* if you provide evidence of using GitHub. I need the GitHub URL for the project, which will give me an idea about the commits and contributions of team members.

8. Grading Policy (for teams)

Factor	Percentage
Whether the source code can compile, run, and do what is required.	10%
Class diagram	10%
Fulfillment of the technical requirements	20%
Quality of algorithms: <ul style="list-style-type: none">• Good performance of the functions.• Well-documented source code.• Meaningful variable names.• Object-oriented source code.	30%
Individual contribution to the team (Each team member gets a different mark)	25%
Teamwork	5%
Using Git/GitHub	(+ %5)

9. Grading Policy (Solo)

Factor	Percentage
Whether the source code can compile, run, and do what is required.	10%
Class diagram	10%
Fulfillment of the technical requirements	40%
Quality of algorithms: <ul style="list-style-type: none">• Good performance of the functions.• Well-documented source code.• Meaningful variable names.• Object-oriented source code.	40%
Using Git/GitHub	(+ %5)